brought either to Paris or Kew; and I left them in the care of my good friend Mr. Calvert, H.B.M. Vice-Consul at Alexandria, well known as an excellent botanist, who gave them to that excellent horticulturist Herr Winterstein to keep during the winter. Unfortunately these trees did not survive; but, thanks to M. Adrien, of Isle Praslin, and Mr. Ward, I hope in spring next, when the weather becomes a little warm, to receive some young plants which have been germinated in tubs, and which will thus not have had the risk of being transplanted. These I shall hand over, when they arrive, to the gardens of Kew and Dublin; and I have no doubt they will be well taken care of.

In some of the volumes of Curtis's 'Botanical Magazine,' excellent hints on the cultivation of plants will be found, given by Mr. John Smith of Kew. It would be well for our plant-growers if they would oftener read through and digest these articles. In treating of the cultivation of *Lagetta lintearia*, Lam. (tab. 4502), he remarks on the hints given to him for his guidance in growing this plant by Mr. Wilson (who found the plants growing on their native soil):—"We are always most desirous to pay attention to information as regards the native habitats of plants; but in cases like the present we have found that when too strictly adhered to, successful cultivation does not always follow. In our experience we have never found any plant thrive by retaining it in its native soil. If we could only imitate all the various influences of climate that modify and control the growth of plants in their native localities, then we might do so." These very correct remarks it will be well to bear in mind when the time comes, as I hope it will soon, for us to cultivate this fine palm in our stoves; for most certainly the *Lodoicea* will not grow under cultivation in the Seychelles Islands, when planted in rocky, stony ground such as the trees are found to flourish in in their native forests of Praslin and Curieuse, and yet there there is no necessity to imitate the climate: how much less, therefore, will it grow with us, if subject to the same treatment, when with us it would seem practically impossible to imitate the alternate wet and dry seasons of the tropics!

XLI.—*Notes on the Distribution in Time of the various British Species and Genera of Graptolites.* By Henry Alleyne Nicholson, D.Sc., M.B., F.G.S.

Speaking generally, the Graptolitidæ may be said to be characteristic fossils of the Silurian period; and the generaliza-

tion of Sir Roderick Murchison, that they are exclusively confined to this epoch, still holds good as far as all the typical forms of the order are concerned. The somewhat aberrant genus *Dictyonema* (which, along with some others, might fairly be placed in a distinct suborder) has been found by Hall in the Middle Old Red in America. This discovery would lead us to anticipate a similar revelation in Britain, whenever beds shall have been examined in this formation which present evidence of having offered the requisite conditions for the growth and preservation of these organisms. Further, the same genus *Dictyonema* occurs in the Tremadoc Slates, which are by some looked upon as the top of the Upper Cambrian series. Nevertheless it remains certain that the Graptolites as a family are characteristically Silurian; and further researches are not likely to alter this statement in any essential point. Not only is this the case, but the Graptolites, as regards their abundance as individuals, and the number of generic and specific types, are far more characteristic of the Lower- than of the Upper-Silurian period. And, finally, the inferior portions of the Lower Silurian rocks can claim a decided predominance in the number of genera when compared with the superior members of the same.

Contrary to what might have been expected, the various genera, and often the species also, of Graptolites are very constant in their range and distribution. They afford, therefore, very valuable and reliable data, whereby formations in different parts of the world may be correlated with one another or the exact position held by any group of beds in the stratified series may be more or less exactly ascertained.

In Britain Graptolites are known to range from the Tremadoc Slates up to the Upper Ludlow rocks, inclusive, the Lower Llandeilo, Upper Llandeilo, and Caradoc groups being those in which there is the maximum development of genera and species, usually accompanied in the two latter cases by an extraordinary abundance of individuals. On the whole, the lower part of the Lower Llandeilo (Skiddaw Slates), as stated by Salter, must be looked upon as the "metropolis" of the family, since it contains a larger number and a more varied series of generic types than is found in any other formation. The Upper Llandeilo and Caradoc groups, on the other hand, possess together a much greater number of species and of individuals than is the case with the Lower Llandeilos, though this is, perhaps, largely due to the more favourable nature of their sediments, the same disproportion not being recognized in America.

Looking merely to Britain, the Lower Silurian rocks are

characterized by the exclusive possession of the genera *Dictyonema*, *Dichograpsus*, *Tetragrapsus*, *Dendrograpsus*, *Phyllograpsus*, *Pleurograpsus*, *Helicograpsus*, *Cyrtograpsus*, *Callograpsus*, *Diplograpsus*, *Climacograpsus*, *Dicranograpsus*, *Didymograpsus*, and *Rastrites*. Of the remaining British genera, *Graptolites* and *Retiolites* are common to both the lower and upper divisions of the Silurian series. The same is really the case with *Ptilograpsus*, for, though not known to occur in Britain out of the Lower Ludlow rocks, it is a characteristic genus in the Quebec group of Canada. It may therefore be said that the Upper Silurian rocks of Britain are not in the exclusive possession of any genus of Graptolites.

The genus *Dictyonema*, Hall, occurs in the Tremadoc Slates (Uppermost Lingula Flags of Salter, Upper Cambrian of Belt), in the Lower Llandeilo, and in the Caradoc group. Though represented in America by various species in the Quebec group, it has not as yet been found in the corresponding strata in Britain, viz. the Skiddaw Slates (lowest Llandeilo). The species of the Tremadoc Slates is the familiar *D. sociale*, Salt.; and an undetermined form, possibly the same, is found in the Lower Llandeilo rocks of the Shelve district. The Upper Llandeilo rocks have not hitherto yielded any example of the genus; but a single example (apparently *D. gracile*, Hall) has been discovered by Prof. Harkness in the Bala Limestone of Girvan. The younger deposits of Britain have not been shown to contain any species of *Dictyonema*; but such have been found in the Upper Silurians of America, and even in the Middle Old Red Sandstone (Upper Helderberg and Hamilton groups); so that the genus cannot be looked upon as characteristic of any portion of the Silurian period.

The genera *Dichograpsus*, *Tetragrapsus*, and *Phyllograpsus* are exclusively confined to the Skiddaw and Quebec groups, both at home and abroad, being represented by several species in the Skiddaw Slates of Cumberland and Westmoreland. (See Quart. Journ. Geol. Soc. vol. xix. p. 137, and vol. xxiv. p. 125 *et seq.*). *Phyllograpsus*, represented by its two most typical species, viz. *P. angustifolius* and *P. typus*, appears to range throughout the entire group; but *Dichograpsus* and *Tetragrapsus*, with four species each, seem to be confined to the lower beds of the series. No member of these three genera has hitherto been found in the equivalent strata in Wales (Whitesand Bay).

The genus *Dendrograpsus*, Hall, is mostly characteristic of the base of the Lower Silurian series. One species, viz. *D. Hallianus*, Prout, has been dubiously determined from the Skiddaw Slates; and *D. furcatula*, Salt., from the Lower

Llandeilo rocks of Wales, would seem to be referable to the same species. Another form, viz. *D. flexuosus*, Hall, has been recognized by Mr. Baily in the Caradocs of Ireland.

The genus *Climacograpsus*, Hall (=*Diplograpsus* in part) has a vertical range from the Lowest Llandeilo up to the Lower Llandovery, having its maximum development in the Upper Llandeilo and Caradoc groups. It will thus be seen that *Climacograpsus* is strictly coordinate in its range with the limits of the Lower Silurian rocks, of which its members may therefore be considered characteristic fossils. The most typical and familiar species, *C. teretiusculus*, His., has the same range as the genus. It commences in the upper beds of the Skiddaw Slates, is of tolerably frequent occurrence in the Lower Llandeilo rocks of Wales, attains its maximum of abundance in the Upper Llandeilo and Caradoc groups, and is known in the Lower Llandovery by a single specimen only, which was discovered by Prof. Harkness. A second species, viz. *C. antennarius*, Hall, also occurs in the Skiddaw Slates; but it appears to have died out before the deposition of even the upper beds of this formation, and it is not known to occur in any of the higher groups. Of the remaining species, *C. bicornis*, Hall, occurs in the Lower Llandeilo rocks, but is much more frequently found in the Upper Llandeilos; whilst *C. tuberculatus*, Nich. (MS.), is confined to the last-named group.

The closely allied genus *Diplograpsus*, M'Coy, is, like the last, exclusively confined to, and essentially characteristic of, the Lower Silurian period. Its range, however, is not quite so wide, inasmuch as it is not yet known to transcend the limits of the Caradoc series, though it commences as early as the Skiddaw Slates. Of the British species, *D. pristiniformis*, Hall, and *D. mucronatus*, Hall, are the oldest, the former being confined to the Skiddaw group, whilst the latter passes up into the Upper Llandeilo, and in America occurs also in the Caradocs* (Utica Slate and Hudson-River group). *D. Whitfieldii*, Hall, *D. cometa*, Gein., *D. nodosus*, Harkn., *D. acuminatus*, Nich., and *D. Harknessii*, Nich., appear to be exclusively Upper-Llandeilo species in Britain, the first passing up into the Caradocs in America. *D. pristis*, His., *D. angustifolius*, Hall, *D. palmeus*, Barr. (including *D. folium*, His.), *D. tamariscus*, Nich., and *D. vesiculosus*, Nich., are all characteristic fossils both in the Upper Llandeilo rocks and in the Coniston Flags (Caradoc). *D. putillus*, Hall, originally described from the Utica Slate, and *D. confertus*, Nich., are the

* *D. mucronatus* appears also to occur in the Caradocs of Ireland.

only British species as yet known to be confined to the Coniston Flags.

The genus *Dicranograpsus*, Hall, comprising the single species *D. ramosus* (the old *Diplograpsus ramosus*), ranges through the Lower and Upper Llandeilos, and is said to have been found in the Coniston Flags (Caradoc). It is, however, most characteristically a fossil of the Upper Llandeilo rocks in Britain.

The genus *Didymograpsus* appears to have both its commencement and its maximum in the Skiddaw and Quebec groups, being represented in Britain by eight species from the Skiddaw Slates, viz. *D. nitidus*, Hall, *D. bifidus*, Hall, *D. V-fractus*, Salt., *D. affinis*, Nich. (MS.), *D. patulus*, Hall, *D. geminus*, His., *D. serratulus*, Hall, and *D. sextans*, Hall. Of these the first four are exclusively confined to this horizon in the stratified series; *D. geminus*, His., and *D. patulus*, Hall, are also very characteristic fossils in the Lower Llandeilo rocks; *D. sextans*, Hall, occurs plentifully in the Upper Llandeilos, and *D. serratulus* is found in the Utica Slate (Caradoc) of America. In the Upper Llandeilo rocks the genus *Didymograpsus* is highly characteristic, and is represented by *D. Murchisoni*, Beck, *D. flaccidus*, Hall, *D. divaricatus*, Hall, *D. sextans*, Hall, and *D. anceps*, Nich., of which *D. Murchisoni*, though curiously local in its occurrence, is perhaps one of the most characteristic. It is worthy of remark that no *Didymograpsus* has hitherto been found in the Caradoc group in England, not even in the Coniston Flags, though these abound in Graptolites and contain so many species common to the Utica Slates of America, in which the genus is represented by *D. sextans*, *D. serratulus*, *D. divaricatus*, and *D. flaccidus*. In Ireland, however, at least two species of *Didymograpsus* are said to occur in strata of Caradoc age (Baily).

The genus *Rastrites* of Barrande appears not to occur either in the Skiddaw Slates or in the Lower Llandeilo proper, but to be exclusively confined to the Upper Llandeilo and Caradoc groups. In the former of these, *R. peregrinus*, Barr., *R. Linnæi*, Barr., and *R. capillaris*, Carr., are characteristic fossils; and the two former of these are also found in the Coniston Flags.

The genus *Pleurograpsus*, Nich., is doubtfully represented in the Skiddaw Slates by a single species, *P. vagans*, Nich., the typical form (viz. *P. linearis*, Carr.) being confined to the Upper Llandeilo rocks.

Helicograpsus, Nich., comprising the single species *H. gracilis*, Hall (the *Graptolithus gracilis* of Hall), is found in the

Upper Llandeilo rocks of Scotland, and has been also made out in the Caradoc group in Ireland.

In these latter beds Mr. Baily has likewise determined the existence of the genus *Callograpsus*, Hall, by the single species *C. elegans*, Hall. This genus, which is otherwise confined to the Quebec group, is in most respects intermediate between *Dendrograpsus* and *Dictyonema*.

The genus *Cyrtograpsus*, Carr., appears to have a range similar to that of *Helicograpsus* (viz. Upper Llandeilo and Caradoc).

The remaining three genera of British Graptolites, namely, *Retiolites*, *Graptolites*, and *Ptilograpsus*, are common to both the upper and lower divisions of the Silurian rocks, though the last has not as yet been detected in Britain except in the Upper Silurians.

The genus *Graptolites*, Linn., doubtfully represented in the Lower Llandeilos by a single species, and largely represented in the Upper Llandeilos, attains its maximum in the Caradoc series (Coniston Flags). At this point most of the species of the genus appear to have died out, no more than four passing up into younger deposits. With the doubtful exception of *G. sagittarius*—a determination which may have been founded on a fragment of a compound species—no completely satisfactory instance is known to me of the occurrence of any member of the genus *Graptolites* either in the Skiddaw Slates or in the Lower Llandeilo proper. In the Upper Llandeilo rocks the genus is represented by *G. sagittarius*, Linn., *G. Sedgwickii*, Portl., *G. lobiferus*, M'Coy, *G. tenuis*, Portl., *G. Nilssoni*, Barr., *G. priodon*, Bronn, and *G. fimbriatus*, Nich. All these forms, however, pass upwards; so that the Upper Llandeilo rocks cannot be said to possess any species of this genus peculiar to themselves. In the Coniston Flags (Caradoc), besides all the species above mentioned, there occur also *G. turriculatus*, Barr., *G. Bohemicus*, Barr., *G. discretus*, Nich., and *G. colonus*, Barr., this last passing on, together with *G. priodon*, into the overlying Coniston Grits, which would seem to be likewise of Caradoc age. The four species which survive into the Upper Silurian period are *G. priodon*, *G. colonus*, *G. Flemingii*, Salt., and an undetermined form from the Ludlow rocks. Of these, *G. Flemingii* is peculiar to the Wenlock formation; but the first two are found in both the Wenlock and Ludlow rocks. Of all the species of the genus, *G. priodon* has the most extensive vertical range, passing from the Upper Llandeilo up to the Upper Ludlow formation.

The genus *Retiolites*, Barr., has hitherto not been found in

either the Skiddaw Slates or the Lower Llandeilo proper, though its discovery in the former of these may fairly be anticipated. In the Upper Llandeilo rocks of the south of Scotland a single species has been found, apparently *R. venosus*, Hall; and a second species, *R. perlatus*, Nich., occurs in the Coniston Flags; but this may possibly turn out to be a large variety of the former. The third and longest-lived British species is *R. Geinitzianus*, Barrande, which occurs plentifully in the Coniston Flags (Caradoc), and has also been found in the Ludlow rocks of the Pentland Hills, near Edinburgh.

The genus *Ptilograpsus*, Hall, is known as occurring in Britain by a single species only, *P. anglicus*, Nich., which is found in the Lower Ludlow rocks. The two remaining species of *Ptilograpsus* occur in the Quebec group in Canada; but no member of the genus has as yet been discovered in any of the intervening formations.

Summary.

Of the above-mentioned British genera of Graptolites, in number seventeen, it will be seen that fourteen are, as far as is yet known, entirely and exclusively confined to the Lower Silurian series, two are common to both the Lower and Upper divisions, and *Ptilograpsus* alone is confined to the Upper Silurian rocks. As, however, this last-named genus is found in the Quebec group, the Upper-Silurian period cannot be said to possess a single characteristic genus of the family, and it possesses but two peculiar species.

In the Tremadoc Slates (Upper Cambrian?) no other genus is known to occur than *Dictyonema*, and this is represented by a single species. The Skiddaw Slates (Lowest Llandeilo) are specially characterized by the exclusive possession of the genera *Dichograpsus*, *Tetragrapsus*, and *Phyllograpsus*, and of the species *Diplograpsus antennarius*, *D. pristiniformis*, *Didymograpsus nitidus*, *D. V-fractus*, and *D. affinis*. The Skiddaw Slates contain altogether eight genera and twenty-four species, of which three genera and thirteen species belong also to the Quebec group. Two species occur also as characteristic fossils in the Lower Llandeilo rocks of Wales and Sweden. Five species are peculiar to the Slates, and the remaining four occur either in the Upper Llandeilo or in the Caradoc groups. Out of nineteen species, not peculiar to the Skiddaw Slates, thirteen, or more than two-thirds, are common to the Quebec group of Canada, a close relationship between the two formations being thus demonstrated.

The Lower Llandeilo rocks proper are specially charac-

terized by the possession, though not exclusive, of the species *Didymograpsus geminus*, *D. patulus* (=*D. hirundo*, Salt.), and *Dendrograpsus Hallianus*, of which the two former occur also in the Alum Slates of Aher, in Sweden.

The Upper Llandeilo rocks of Britain contain thirty-four species, belonging to ten genera. Of the whole number of species, sixteen, or nearly one-half, are common to the Coniston Flags, eleven are peculiar to this horizon, and thirteen are found in the Utica Slate and Hudson-River group in America. From this it will be seen that, taken as a whole, and as far as the Graptolites alone are concerned, it is impossible to make any separation between the Upper-Llandeilo and Caradoc periods. The two periods, viewed together, are characterized by the great abundance of members of the genera *Diplograpsus*, *Climacograpsus*, *Graptolites*, *Rastrites*, and *Dicranograpsus*, of which the two latter do not occur in either younger or older formations. Amongst the species most highly characteristic of the two groups may be mentioned *Diplograpsus pristis*, *D. angustifolius*, *D. palmeus*, *D. tamariscus*, *Graptolites Sedgwickii*, *G. sagittarius*, *G. lobiferus*, *G. Nilssoni*, *Rastrites peregrinus*, *R. Linnæi*, and *Dicranograpsus ramosus*.

The Caradoc rocks, as a rule, do not yield any Graptolites; but striking exceptions are found to this statement in the Coniston Flags and in some of the Caradoc beds in Ireland. The Coniston Flags contain twenty-four species, belonging to six genera. Of these, six species occur in the Utica Slate and Hudson-River group of America, a decided relationship between the two formations being thus established. A still more decided connexion is found to exist between the Graptolites of the Coniston Flags and those of Barrande's "étage E," twelve of the species which occur in the former (constituting one-half of their entire number) being found in the latter also. Amongst the Graptolites which are not found in Britain elsewhere than in the Coniston Flags are *Graptolites turriculatus*, *G. Bohemicus*, *G. discretus*, *Diplograpsus putillus*, and *D. confertus*.

In the Caradoc beds in Ireland there are found, amongst other species, *Diplograpsus pristis*, *D. mucronatus*, *Didymograpsus sextans*, *Helicograpsus gracilis*, *Graptolites Nilssoni*, *G. Sedgwickii*, *G. priodon*, *Dendrograpsus flexuosus*, and *Callograpsus elegans*. Most of these are common to the Upper Llandeilo rocks and Coniston Flags; the first four occur in the Utica Slate and Hudson-River group of America; and the last two are characteristic species in the Quebec group of Canada.

In the Lower Llandovery rocks one Graptolite only has

been found, viz. *Climacograpsus teretiusculus*, a highly characteristic Lower-Silurian fossil.

In the Wenlock rocks there is but one peculiar species, namely *Graptolites Flemingii*; *G. priodon* and *G. colonus* being common but not confined to the group. The sole peculiar species, *G. Flemingii*, is only known to occur in one locality (Balmae in Kircudbright), in beds supposed to be of the age of the Wenlock Shale. *Retiolites Geinitzianus* has been looked upon as a characteristic Wenlock form; but it occurs abundantly, with Lower-Silurian species, in the Coniston Flags, and it appears to have lived on into the Ludlow period.

In the Lower Ludlow rocks the beautiful *Ptilograpsus anglicus* has hitherto been exclusively found, whilst in both the Lower and Upper Ludlows *G. priodon* and *G. colonus* are of common occurrence.

Subjoined are tables showing the distribution in time of the genera and species of Graptolitidæ which have been discovered in Britain.

Table showing the Vertical Distribution of the British Genera of the Family of the Graptolitidæ.

Genera.	Tremadoc Slates.	Skiddaw Slates (Lowest Llandeilo).	Lower Llandeilo.	Upper Llandeilo.	Caradoc.	Lower Llandovery.	Upper Llandovery.	Wenlock.	Lower Ludlow.	Upper Ludlow.
Dictyonema	*	..	*	..	*					
Dichograpsus	..	*								
Tetragrapsus	..	*								
Phyllograpsus	..	*								
Dendrograpsus	..	*	*	..	*					
Climacograpsus	..	*	*	*	*	*				
Diplograpsus	..	*	*	*	*					
Didymograpsus	..	*	*	*	*					
Pleurograpsus	..	?	..	*						
Graptolites	..	?	?	*	*	*	*	*	*	*
Rastrites	..	..	..	*	*					
Helicograpsus	..	..	..	*	*					
Cyrtograpsus	..	..	..	*						
Retiolites	..	..	..	*	*	..	..	*	*	
Dicranograpsus	..	..	*	*	?					
Callograpsus	..	..	..	..	*					
Ptilograpsus	..	..	..	..	..	..	..	..	*	

Table showing the Geological Distribution of the Species of Graptolitidæ in Britain.

Species.	Tremadoc Slates.	Skiddaw Slates (Lowest Llandeilo).	Lower Llandeilo.	Upper Llandeilo.	Caradoc.	Lower Llandovery.	Upper Llandovery.	Wenlock.	Lower Ludlow.	Upper Ludlow.
Dictyonema sociale, *Salt.*	*									
gracile, *Hall* (?)	..	..	..	..	*					
Dichograpsus Logani, *Hall*	..	*								
multiplex, *Nich.*	..	*								
octobrachiatus, *Hall*	..	*								
reticulatus, *Nich.*	..	*								
Tetragrapsus bryonoides, *Hall*	..	*								
crucifer, *Hall*	..	*								
Headi, *Hall*	..	*								
quadribrachiatus, *Hall*	..	*								
Phyllograpsus angustifolius, *Hall*	..	*								
typus, *Hall*	..	*								
Dendrograpsus Hallianus, *Prout*	..	*	*							
flexuosus, *Hall*	..	..	..	..	*					
Climacograpsus antennarius, *Hall*	..	*								
bicornis, *Hall*	..	..	*	*						
teretiusculus, *His.*	..	*	*	*	*	*				
tuberculatus, *Nich.*	..	..	..	*						
Diplograpsus acuminatus, *Nich.*	..	..	..	*						
angustifolius, *Hall*	..	..	..	*	*					
cometa, *Gein.*	..	..	..	*						
confertus, *Nich.*	..	..	..	..	*					
Harknessii, *Nich.*	..	..	..	*						
mucronatus, *Hall*	..	*	*	*	*					
nodosus, *Harkn.*	..	..	..	*						
palmeus, *Barrande* (=D. folium, *His.*)	..	..	..	*	*					
pristiniformis, *Hall*	..	*								
pristis, *His.*	..	?	..	*	*					
putillus, *Hall*	..	..	..	..	*					
tamariscus, *Nich.*	..	..	..	*	*					
vesiculosus, *Nich.*	..	..	..	*	*					
Whitfieldii, *Hall*	..	..	..	*						
Didymograpsus affinis, *Nich.*	..	*								
anceps, *Nich.*	..	..	..	*						
bifidus, *Hall*	..	*								
divaricatus, *Hall*	..	..	..	*						
flaccidus, *Hall*	..	..	..	*						
geminus, *His.*	..	*	*							
Murchisoni, *Beck*	..	..	..	*						
nitidus, *Hall*	..	*								
patulus, *Hall*	..	*	*							
serratulus, *Hall*	..	*								
sextans, *Hall*	..	?	..	*	*					
V-fractus, *Salt.*	..	*								

TABLE (*continued*).

Species.	Tremadoc Slates.	Skiddaw Slates (Lowest Llandeilo).	Lower Llandeilo.	Upper Llandeilo.	Caradoc.	Lower Llandovery.	Upper Llandovery.	Wenlock.	Lower Ludlow.	Upper Ludlow.
Pleurograpsus linearis, *Carr.*	..	..	..	*						
vagans, *Nich.*	..	*								
Graptolites Bohemicus, *Barr.*	..	..	..	..	*					
colonus, *Barr.*	..	..	..	..	*	..	..	*	*	*
discretus, *Nich.*	..	..	..	..	*					
fimbriatus, *Nich.*	..	..	..	*	*					
Flemingii, *Salt.*	..	..	..	..	..	..	..	*		
lobiferus, *M'Coy*	..	..	..	*	*					
Nilssonii, *Barr.*	..	..	..	*	*					
priodon, *Bronn*	..	..	..	*	*	*	*	*	*	*
sagittarius, *Linn.*	..	..	?	*	*					
Sedgwickii, *Portl.*	..	..	..	*	*					
tenuis, *Portl.*	..	..	..	*	*					
turriculatus, *Barr.*	..	..	..	..	*					
Rastrites capillaris, *Carr*	..	..	..	*						
Linnæi, *Barr.*	..	..	..	*	*					
peregrinus, *Barr.*	..	..	..	*	*					
Helicograpsus gracilis, *Hall*	..	..	..	*	*					
Cyrtograpsus Murchisoni, *Carr.*	..	..	..	*						
Retiolites Geinitzianus, *Barr.*	..	..	..	..	*	..	..	*	..	*
perlatus, *Nich.*	..	..	..	..	*					
venosus, *Hall*	..	..	..	*						
Dicranograpsus ramosus, *Hall*	..	..	*	*	*					
Callograpsus elegans, *Hall*	..	..	..	..	*					
Ptilograpsus anglicus, *Nich.*	..	..	..	..	..	..	..	..	*	

XLII.—*Remarks upon Mr. J. Gwyn Jeffreys's last Dredging Report.* By R. M'ANDREW, F.R.S.

My friend Mr. Jeffreys, in the Dredging Report read by him at the Norwich Meeting of the British Association, and published in the Number of the 'Annals of Natural History' for last month, gives a summary of observations previously recorded by him; and as some of these are not in accordance with the result of my dredging experience, I feel called upon to state the grounds upon which I am compelled to differ from one who is generally so trustworthy an authority, and to make a few remarks bearing upon the questions at issue. Mr. Jeffreys states:—

"1. The bathymetrical zones have been too much divided